

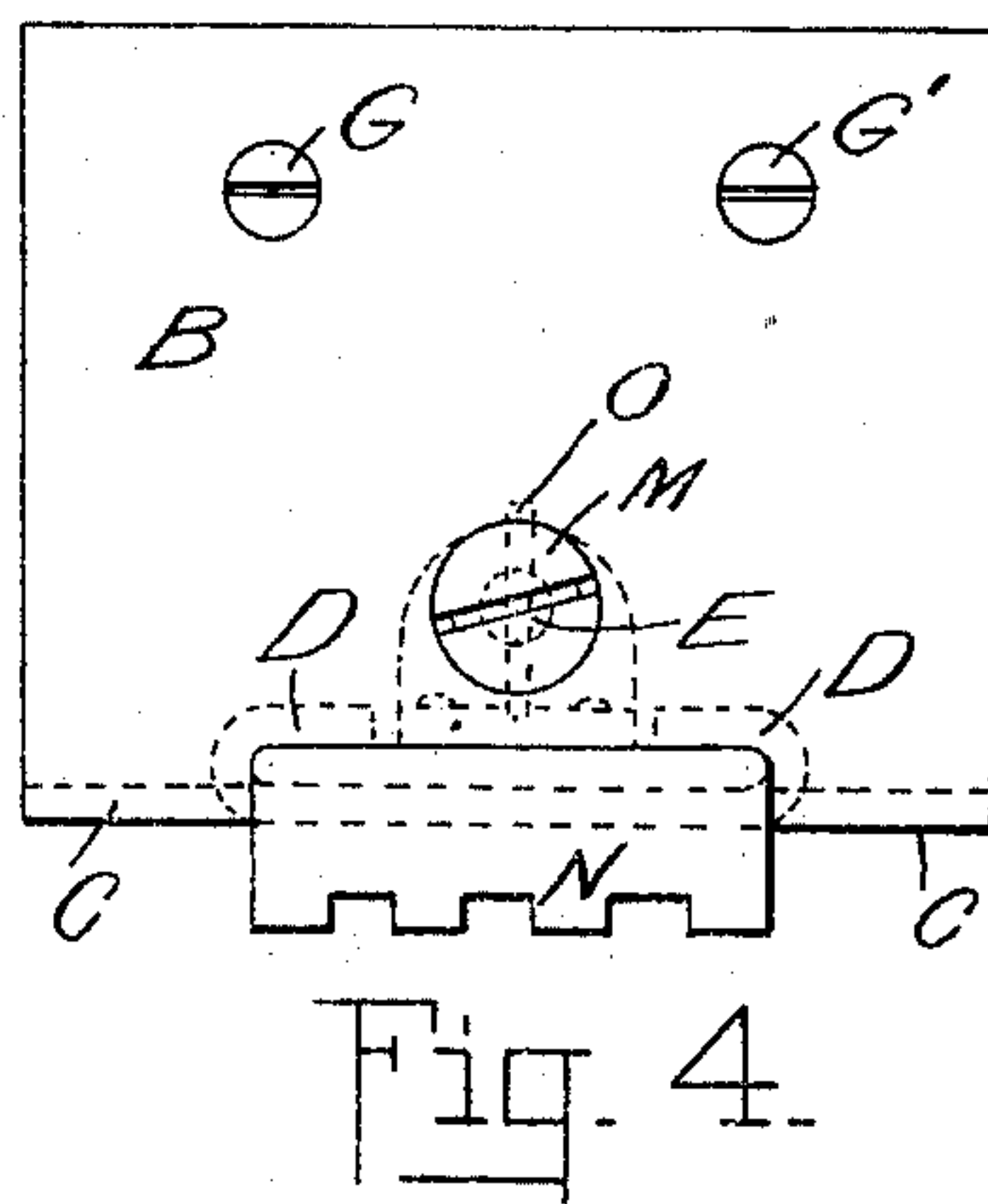
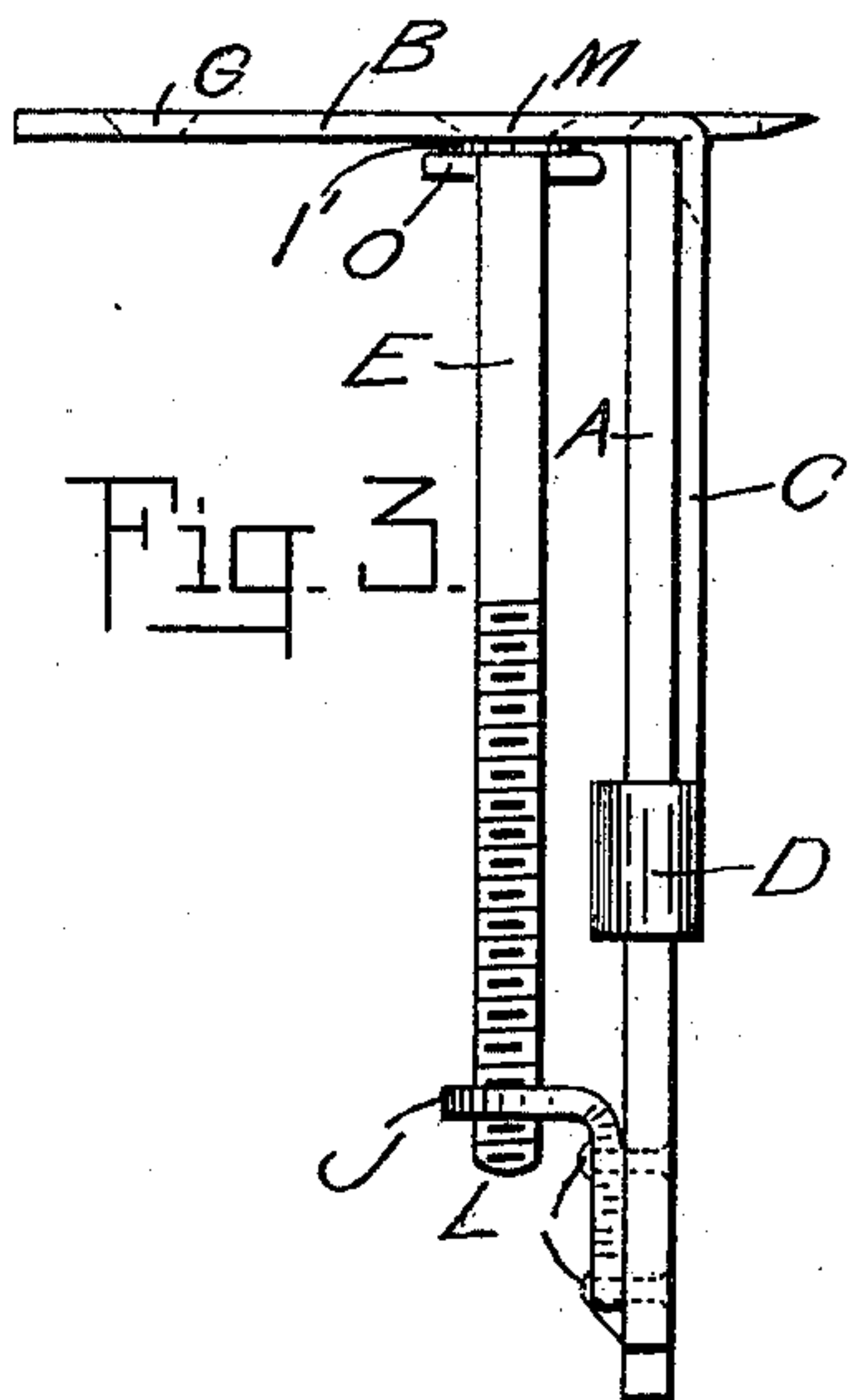
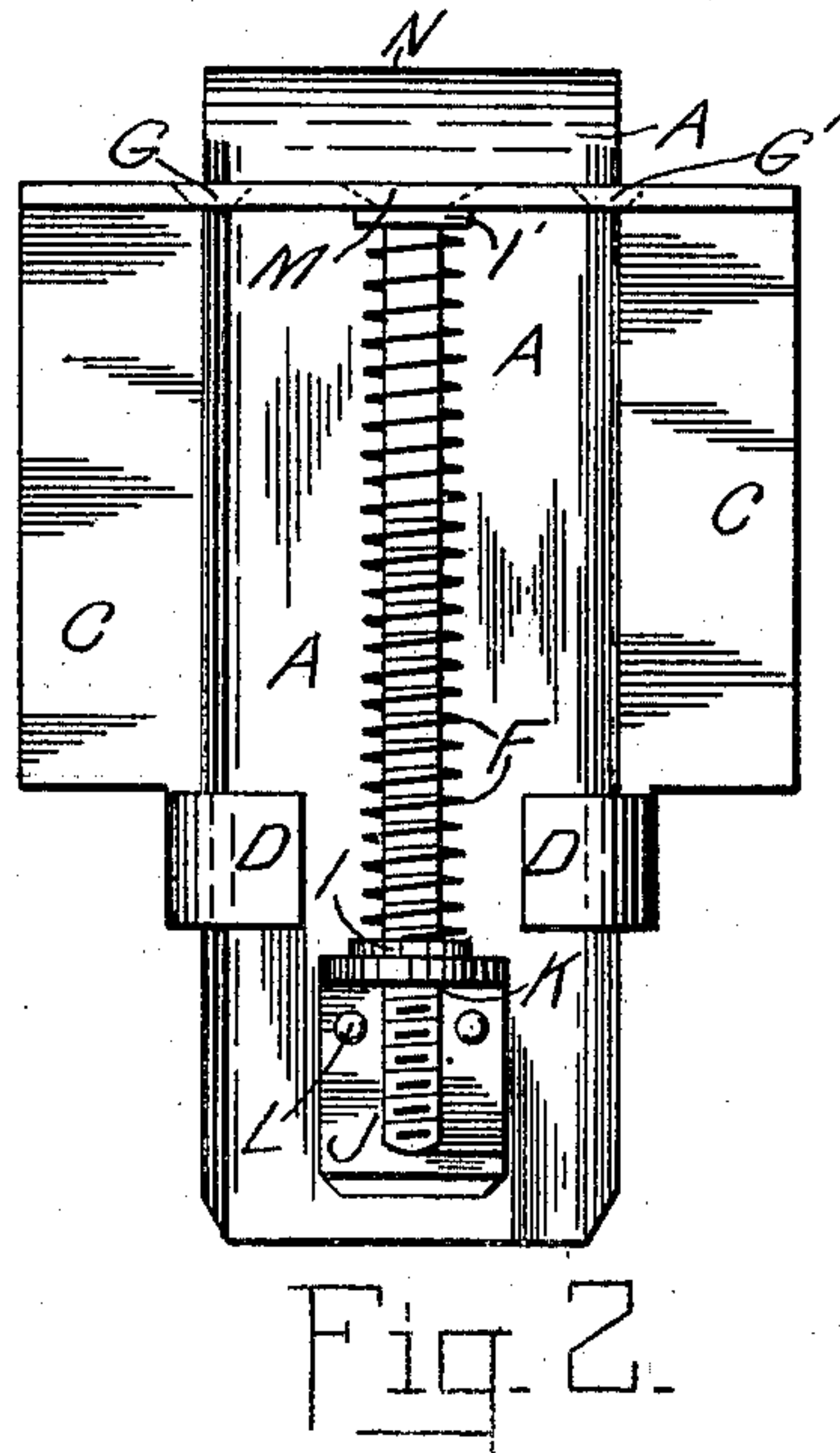
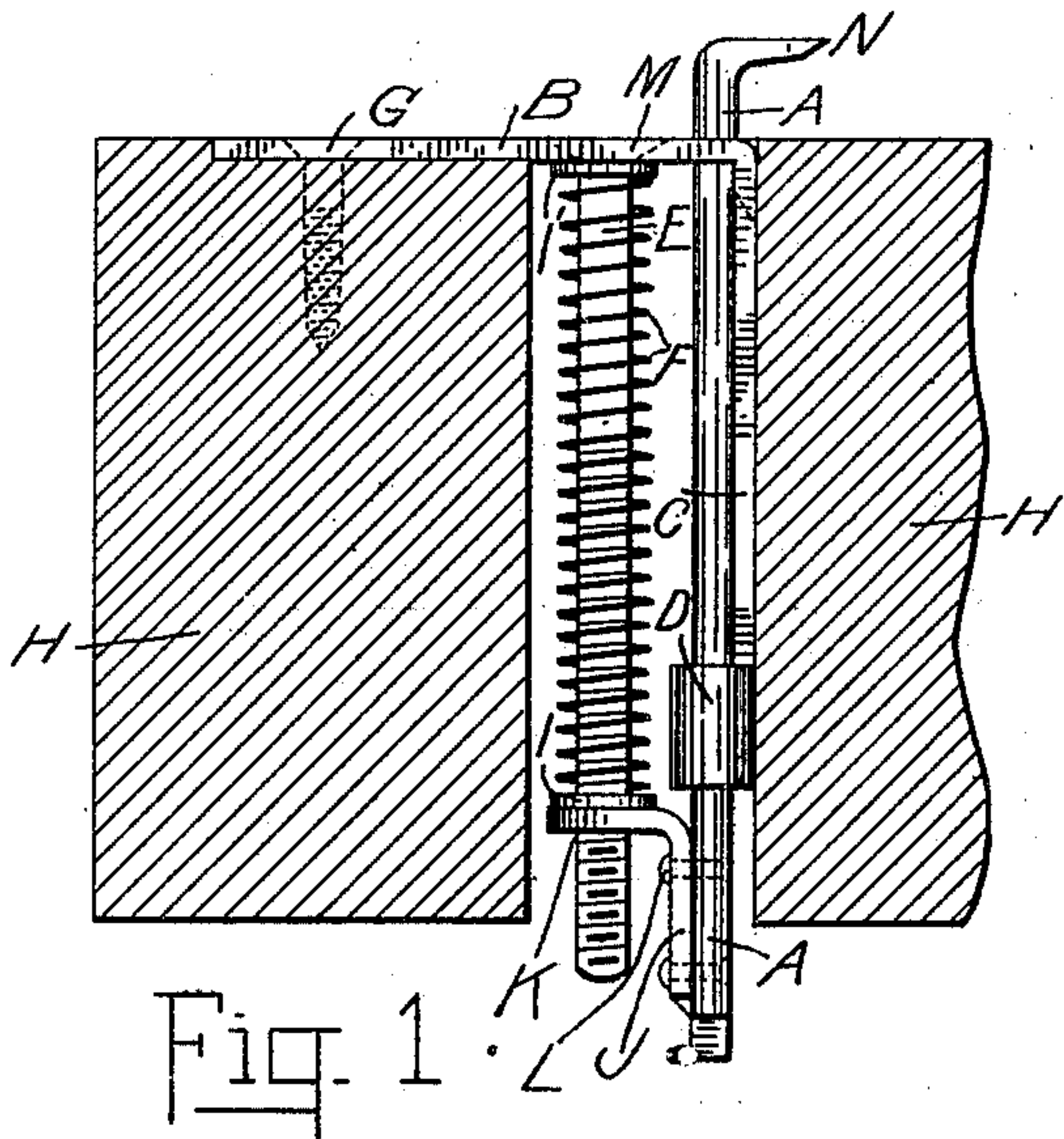
No. 627,082.

Patented June 13, 1899.

B. PHELPS.
BENCH STOP.

(Application filed Sept. 24, 1898.)

(No Model.)



WITNESSES:

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INVENTOR.

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UNITED STATES PATENT OFFICE.

BYRON PHELPS, OF SEATTLE, WASHINGTON.

BENCH-STOP.

SPECIFICATION forming part of Letters Patent No. 627,082, dated June 13, 1899.

Application filed September 24, 1898. Serial No. 691,778. (No model.)

To all whom it may concern:

Be it known that I, BYRON PHELPS, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Bench-Stop, of which the following is a specification.

My invention relates to certain improvements in bench-stops, which will be hereinafter described; and the objects of my improvements are, first, to provide a bench-stop which can be made from sheet metal, thereby securing economy in the cost of manufacture; second, to make a bench-stop of the most effective form and still use a minimum number of necessary parts, and, third, to provide a device of the character described which can be easily and quickly adjusted by the workman from the top of the bench, common devices of this character requiring the workman to stoop or reach under the bench in order to adjust them. These objects I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the complete device properly fastened in the bench and the jaw adjusted for use, part of the bench being removed to clearly show the invention. Fig. 2 is a back view of the complete device after being removed from the bench. Fig. 3 is a side elevation of the complete device removed from the bench and shows a modification of my invention. The jaw is shown adjusted flush with the bench. Fig. 4 is a plan view, most of the parts being shown by dotted lines.

Similar letters refer to similar parts in all views.

The device consists principally of three pieces of sheet metal and a screw. The frame of the device consists of a single piece of sheet metal C, substantially L-shaped. The upper part of the frame B is formed at a right angle to the perpendicular lower portion and affords a flat plate which can be embedded flush with the upper surface of the bench and held fast thereto by means of screws G.

The novel manner in which I secure a suitable guide for the jaw-plate A is as follows: In the angle formed by bending the frame-plate I provide a slot of sufficient width and thickness to permit the necessary free up-and-down sliding movement of the jaw-plate A. This slot serves as the guide for the upper

portion of the jaw-plate, and it is evident from a glance at the drawings that the jaw-plate is held particularly rigid against any transverse or lateral movement at this important place, as the top plate B, against which most of the force is exerted when the device is in use, is directly back of the jaw-plate and securely embedded in and screwed fast to the bench. The lower guide for the jaw-plate is formed by doubling back two wings of the plate C, thereby making a substantially U-shaped guide for each edge of the jaw-plate A. These U-shaped guides are best illustrated by the dotted lines shown in Fig. 4. The guides for the jaw-plate are so effectively arranged that they form a very rigid support for the jaw-plate and still allow it to be freely moved up or down, as the occasion demands.

In order that the device may be the more firmly fixed in the bench, I have provided the two projecting wings C, (best shown in Fig. 2,) which are fitted into corresponding saw cuts or grooves in the bench-top.

The jaw against which the block being planed or otherwise operated upon is forced is formed by bending the upper part of the jaw-plate A at right angles to the slidable part, and I have in my construction preferred to have teeth in the edge of the jaw, although this is not necessary, some mechanics preferring a plain knife-edge for some kinds of work.

As will readily be seen, the jaw can be easily raised or lowered flush with the top of the bench, as the guides permit of such movement, and for the purpose of adjusting the jaw at any height I have provided the screw E, which rotates easily in the plate B, and the lower threaded portion engages a threaded projection J, which is in my preferred construction formed from sheet metal and riveted or otherwise fastened securely to the back side of the lower portion of the jaw-plate. By simply turning the screw the jaw can be readily raised or lowered, and when it has been adjusted to the proper height the screw will hold the plate from any further vertical motion. The means I employ for holding the screw in position are not arbitrary. In Figs. 1 and 2 I have used a spring which at all times presses against the L projection and tends to force it downward, therefore holding the screw in proper place.

In Figs. 3 and 4 I have dispensed with the

spring and substituted a pin O, which is driven through a small hole in the shank of the screw, and when the screw is turned the pin or key sweeps against a washer I, which is interposed.

One of the important and valuable features of my invention is the adjustability of the jaw from the top of the bench. This should be readily appreciated, as most of the devices of this kind are very annoying to adjust, it usually being necessary to fumble under the bench with hammer or other tool to effect a proper elevation of the jaw. All that is necessary to use with my device is a screw-driver, and the screw turns very easily. Should the jaw-plate bind for any reason, it is not necessary to force it by means of hammer or mallet, as the screw furnishes abundance of power for raising or lowering.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a bench-stop, a guide for the jaw-plate, formed by bending the upper portion of the frame-plate at right angles to the perpendicular portion, an aperture in the angle, and a clasp forming a guide on the lower face of the perpendicular portion.

2. In a bench-stop, a guide formed of a single piece of sheet metal, the upper portion being bent at right angles to the perpendicular portion and provided with an aperture near the angle and the perpendicular portion having two laterally-projecting ears and two U-

shaped extensions, substantially as shown and for the purpose specified.

3. In a bench-stop a frame formed of a single piece of sheet metal the upper portion being bent at right angles to the perpendicular portion and provided with an aperture near the angle, the perpendicular portion having two laterally-projecting ears and two U-shaped extensions, in combination with an adjustable jaw the upper portion of which rests in the aperture of the frame-plate the lower portion passing through the U-shaped extensions, said adjustable jaw having a fixed nut engaging with an adjusting-screw said screw being held vertically immovable by a coiled spring, all arranged substantially as shown and for the purpose specified.

4. In a bench-stop, a guide for the jaw-plate, formed by bending the upper portion of the frame-plate at right angles to the vertical part, an aperture in the angle, a clasp on the lower face of the perpendicular portion formed by bending lower portions of the plate into U-shaped guides; flanges on the edges of the frame-plate, an adjustable jaw slidably mounted in the frame-plate guides, and an adjusting-screw engaging a nut on the jaw-plate substantially as described.

In witness whereof I have hereunto set my hand this 12th day of September, 1898.

BYRON PHELPS.

Witnesses:

JAMES P. SULLIVAN,
MARTIN CUDDY.